

CLAIMS

1. -29. (Canceled)

30. (Currently Amended) An optical chassis, comprising:
a shell body having a plurality of inside walls defining an accommodation space;
a plurality of reflection planes located within the accommodation space, each of the reflection planes formed on a corresponding one of the inside walls ~~and covering only a portion of the corresponding inside walls~~;
a reflective plating film ~~films~~ directly formed on at least a portion of each of the plurality of reflection planes to reflect light; and
a lens located within the accommodation space, wherein the lens is configured to receive light reflected from at least one of the reflection planes; and
an imaging apparatus located within the accommodation space, wherein the imaging apparatus is configured to convert the light into electrical signals.
~~wherein the reflective plating film is not formed on at least some portions of the plurality of inside walls.~~

31. (Previously Presented) The optical chassis of claim 30, further comprising:
a light source coupled to the shell body to transmit light to at least one of the reflection planes.

32. (Currently Amended) The optical chassis of claim 30, wherein the ~~optical chassis shell body~~ comprises at least a portion of an optical scanner.

33. (Previously Presented) The optical chassis of claim 30, wherein the shell body and the plurality of reflection planes are formed as a single piece.

34. (Currently Amended) An optical chassis, comprising:
a shell body having a plurality of inside walls defining an accommodation space, defining a plurality of inside walls wherein the shell body further comprises a lid body and a major body,

and wherein the lid body and the major body are formed as separate pieces and assembled together;

a plurality of reflection planes located within the accommodation space and formed on at least a portion of the plurality of inside walls in the major body; and

~~one or more~~ reflective plating films film directly coated on ~~at least a portion of the~~ plurality of reflection planes to reflect ~~light, light, and~~

~~wherein the shell body further comprises a lid body and a major body, wherein the lid body and the major body are formed as separate pieces and subsequently assembled~~

35. (Previously Presented) The optical chassis of claim 30, wherein at least two of the plurality of inside walls are substantially opposed, and wherein at least one of the reflection plane is formed on each of the at least two substantially opposed inside walls.

36. (Currently Amended) The optical chassis of claim 30, wherein the reflective plating film comprises at least one selected from the group including silver, chromium, aluminum, and platinum, and alloys thereof.

37. (Currently Amended) The optical chassis of claim 30, wherein at least a portion of the reflection planes have substantially corresponding angles are formed with predetermined angles.

38. (Previously Presented) The optical chassis of claim 36, wherein the reflective plating film is coated with a protection material.

39. (Previously Presented) The optical chassis of claim 38, wherein the protection material comprises at least one selected from the group including PE plastic films and macromolecular material.

40. (Previously Presented) A method of forming an optical chassis, comprising:

forming a shell body having a plurality of inside walls defining an accommodation space, the shell body configured to mount a lens set within the shell body;

forming a plurality of reflection planes on respective ones of the inside walls;

depositing a plating film directly on at least a portion of each of the plurality of reflection planes, the deposited plating film being capable of reflecting light; and

wherein a thickness of the deposited plating film is relatively greater on the one of the plurality of reflection planes that is optically closest to the lens set.

41. (Previously Presented) The method of claim 40, wherein forming the shell body further comprises forming from at least one selected from the group including injection molding, die-casting, squeeze forming, milling, CNC machining, and combinations thereof.

42. (Previously Presented) The method of claim 40, further comprising forming the shell body and the plurality of reflection planes as a single piece.

43. (Previously Presented) The method of claim 40, wherein the shell body comprises a lid body and a major body, and further comprising:

forming the lid body and the major body as separate pieces; and

assembling the shell body from the separate pieces.

44. (Previously Presented) The method of claim 40, further comprising:

forming at least two of the plurality of inside walls to be substantially opposed; and

forming at least one of the reflection planes on each of the at least two substantially opposed inside walls.

45. (Previously Presented) The method of claim 40, wherein the depositing substantially comprises at least one selected from the group including evaporation sputtering, sputtering and chemical deposition.

46. (Previously Presented) The method of claim 45, wherein the plating film comprises at least one selected from the group including silver, chromium, aluminum, and platinum, and alloys thereof.

47. (Previously Presented) The method of claim 40, further comprising forming a protection material on at least a portion of the deposited plating film.

48. (Previously Presented) The method of claim 47, wherein the protection material comprises at least one selected from the group including PE plastic films and macromolecular material.

49. (Previously Presented) The method of claim 40, wherein the optical chassis comprises at least a portion of an optical scanner.

50. – 57. (Canceled)

58. (Currently Amended) An apparatus comprising:
a shell body of an optical scanning chassis having a plurality of inside walls defining an accommodation space;
a first reflection plane formed on the shell body as a portion less than all of the inside walls and covered with a reflective plating film; ~~and~~
a second reflection plane formed on the shell body, wherein the second reflection plane is configured to receive light reflected from the first reflection plane; and
a third reflection plane formed on the shell body, wherein the third reflection plane is configured to receive light reflected from the second reflection plane, and wherein the first, second, and third planes are located within the accommodation space.
~~wherein at least some portions of the plurality of inside walls are not covered with the reflective plating film.~~

59. (Currently Amended) The apparatus of claim 58, wherein the shell body a particular one of the inside walls and the first, second, and third reflection planes are molded as a single piece.

60. (Currently Amended) The apparatus of claim 58, wherein the shell body comprises a major body and a lid body, and wherein at least a portion of the shell body and the first, second, and third reflection planes are formed in the major body as a single piece.

61. (Cancelled)

62. (Currently Amended) The apparatus of claim ~~64~~58, wherein the shell body is configured to mount a lens set within the ~~shell body~~ accommodation space, and wherein the first, second, and third reflection planes are configured so that light entering the shell body is reflected from the first reflection plane to the second reflection plane, from the second reflection plane to the third reflection plane, and from the third reflection plane towards the lens set.

63. (Currently Amended) The apparatus of claim ~~62-71~~, wherein a thickness of the reflective plating film is relatively greater on the one of the reflection planes that is optically closest to the lens set.

64. (Currently Amended) The method of claim ~~58~~ 71, wherein the first, second, and third reflection planes are covered with the reflective plating film by at least one selected from the group including evaporation sputtering, sputtering and chemical deposition.

65. (Canceled)

66. (New) The optical chassis of claim 34, wherein a lens is disposed within the accommodation space, and wherein the lens is configured to receive light reflected from at least one of the reflection planes.

67. (New) The optical chassis of claim 34, wherein an imaging apparatus is disposed within the accommodation space, and wherein the imaging apparatus is configured to convert the reflected light into electrical signals.

68. (New) The method of claim 40, wherein a level of light reflectivity of the reflection planes is determined by the thickness of the deposited plating film.

69. (New) The apparatus of claim 58, wherein the first, second, and third reflector planes are formed with predetermined angles.

70. (New) The apparatus of claim 58, wherein light is sequentially reflected between the first, second, and third reflection planes to increase an optical length of the reflected light.

71. (New) The apparatus of claim 58, wherein the second and third reflection planes are covered with reflective plating film, and wherein a level of reflectivity of the reflective plating film is varied.

72. (New) The apparatus of claim 71, wherein the reflectivity is varied by changing the thickness of the reflective plating film for one or more of the reflection planes.